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(71)Applicant : **FUJITSU LTD**

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(72)Inventor : **YASUOKA NAMI**

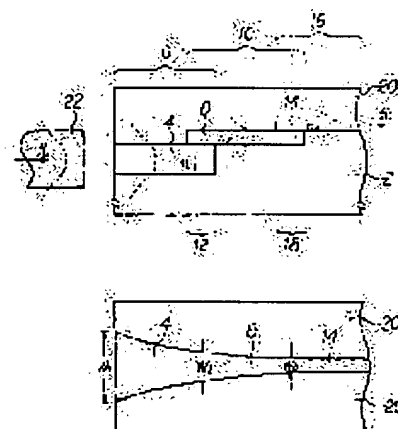
(54) SEMICONDUCTOR LIGHT GUIDE

(57)Abstract:

PURPOSE: To offer the optical waveguide which provides high light confinement by decreasing the loss of coupling with an optical fiber.

CONSTITUTION: The 1st waveguide part 6 of a core layer 4 with a refractive index n_1 which is coupled with an optical fiber 22, the 2nd waveguide part 10 of a core layer 8 with a higher refractive index n_2 than the n_1 , and the 3rd waveguide part 16 of a core layer 14 with a higher refractive index n_3 than the n_2 are formed; and a coupling part 12 couples the core layers 4 and 8 optically and a coupling part 18 couples the core layers 8 and 14.

The widths of the core layers 4 and 8 are so set as to decrease in a taper shape in the order of a width W_1 , a width W_2 , and a width W_3 from an end surface part to the coupling part 18 through the coupling part 12 so that the 1st waveguide part 6 and 2nd waveguide part 10 are cut off at the coupling parts 12 and 18 respectively.



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